

CLAIMS

1. A method of coupling a voiceband modem circuit to a common
phoneline connector, the common phoneline connection having a
ring line connection and a tip line connection which couples a
5 ring/tip line pair to a subscriber loop circuit, the voiceband
modem circuit operating in a voiceband modem operating frequency
band and having a voiceband modem interface ring line and a
voiceband modem interface tip line, comprising:

10 coupling the voiceband modem interface ring line to the
ring line and coupling the voiceband modem interface tip line to
the tip line connection by inserting, between the ring line
connection and the voiceband modem interface ring line and
15 between the tip line connection and the voiceband modem
interface tip line, a series pair of inductors, a first inductor
of the series pair having a low inductance and a high self-
resonant frequency and a second inductor of the series pair
20 having a high inductance and low self-resonant frequency, the
low inductance, the high self-resonant frequency, the high
inductance and the low self-resonant frequency being each
determined to locate a filtering cutoff point between the
voiceband modem operating frequency band and a digital
25 subscriber line operating frequency band.

2. The method of claim 1, wherein the low inductance is 47 μ H
and the high inductance is 5 mH.

30 3. The method of Claim 1, wherein the common phoneline
connection is a RJ-11 connector.

4. A method of coupling a voiceband modem circuit and a
35 digital subscriber line circuit to a common phoneline connector,
the common phoneline connection having a ring line connection
and a tip line connection which couples a ring/tip line pair to

a subscriber loop circuit, the voiceband modem circuit operating in a voiceband modem operating frequency band and having a voiceband modem interface ring line and a voiceband modem interface tip line, the digital subscriber line circuit operating in a digital subscriber line operating frequency band and having a digital subscriber line interface ring line and a digital subscriber line interface tip line, comprising:

coupling the voiceband modem interface ring line and the digital subscriber interface ring line in parallel to the ring line; and

coupling the voiceband modem interface tip line and the digital subscriber interface tip line being coupled in parallel to the tip line connection.

5. The method of Claim 4, wherein:

the coupling the voiceband modem interface ring line, and

the coupling the voiceband modem interface tip line,

is by inserting, between the ring line connection and the voiceband modem interface ring line and between the tip line connection and the voiceband modem interface tip line, a series pair of inductors, a first inductor of the series pair having a low inductance and a high self-resonant frequency and a second inductor of the series pair having a high inductance and low self-resonant frequency, the low inductance, the high self-resonant frequency, the high inductance and the low self-resonant frequency being each determined to locate a filtering cutoff point between the voiceband modem operating frequency band and the digital subscriber line operating frequency band.

6. The method of claim 4, wherein the low inductance is 47 μ H

and the high inductance is 5 mH.

7. The method of Claim 4, wherein the common phoneline connection is a RJ-11 connector.

5 8. A method of coupling a voiceband modem circuit and a home phoneline circuit to a common phoneline connector, the common phoneline connection having a ring line connection and a tip line connection which couples a ring/tip line pair to a
10 subscriber loop circuit, the voiceband modem circuit operating in a voiceband modem operating frequency band and having a voiceband modem interface ring line and a voiceband modem interface tip line, the home phoneline circuit operating in a home phone line operating frequency band and having a home
15 phoneline interface ring line and a home phoneline interface tip line, comprising:

coupling the voiceband modem interface ring line and the
20 home phoneline interface ring line in parallel to the ring line;
and

coupling the voiceband modem interface tip line and the
home phoneline interface tip line being coupled in parallel to
25 the tip line connection.

9. The method of Claim 8, wherein:

the coupling the voiceband modem interface ring line, and
30 the coupling the voiceband modem interface tip line,

is by inserting, between the ring line connection and the
voiceband modem interface ring line and between the tip line
35 connection and the voiceband modem interface tip line, a series pair of inductors, a first inductor of the series pair having a low inductance and a high self-resonant frequency and a second

inductor of the series pair having a high inductance and low self-resonant frequency, the low inductance, the high self-resonant frequency, the high inductance and the low self-resonant frequency being each determined to locate a filtering cutoff point between the voiceband modem operating frequency band and the home phoneline operating frequency band.

10. The method of claim 8, wherein the low inductance is 47 μ H and the high inductance is 5 mH.

11. The method of Claim 8, wherein the common phoneline connection is a RJ-11 connector.

12. A method of coupling a voiceband modem circuit, a digital subscriber line circuit and a home phoneline circuit to a common phoneline connector, the common phoneline connection having a ring line connection and a tip line connection which couples a ring/tip line pair to a subscriber loop circuit, the voiceband modem circuit operating in a voiceband modem operating frequency band and having a voiceband modem interface ring line and a voiceband modem interface tip line, the digital subscriber line circuit operating in a digital subscriber line operating frequency band and having a digital subscriber line interface ring line and a digital subscriber line interface tip line, the home phoneline circuit operating in a home phoneline operating frequency band and having a home phoneline interface ring line and a home phoneline interface tip line, comprising:

coupling the voiceband modem interface ring line, the digital subscriber interface ring line and the home phoneline interface ring line being coupled in parallel to the ring line; and

coupling the voiceband modem interface tip line, the digital subscriber interface tip line, and the home phoneline

interface tip line being coupled in parallel to the tip line connection.

13. The method of Claim 12, wherein:

5 the coupling the voiceband modem interface ring line, the digital subscriber interface ring line and the home phonenumber interface ring line, and

10 the coupling the voiceband modem interface tip line, the digital subscriber interface tip line and the home phonenumber interface tip line

15 is by inserting, between the ring line connection and the voiceband modem interface ring line and between the tip line connection and the voiceband modem interface tip line, a series pair of inductors, a first inductor of the series pair having a low inductance and a high self-resonant frequency and a second inductor of the series pair having a high inductance and low self-resonant frequency, the low inductance, the high self-resonant frequency, the high inductance and the low self-resonant frequency being each determined to locate a filtering cutoff point between the voiceband modem operating frequency band and the digital subscriber line operating frequency band.

14. The method of claim 12, wherein the low inductance is 47 μ H and the high inductance is 5 mH.

30 15. The method of Claim 12, wherein the common phonenumber connection is a RJ-11 connector.

35 16. A circuit coupler for coupling a voiceband modem circuit to a common phonenumber connector, the common phonenumber connection having a ring line connection and a tip line connection which couples a ring/tip line pair to a subscriber loop circuit, the

voiceband modem circuit operating in a voiceband modem operating frequency band and having a voiceband modem interface ring line and a voiceband modem interface tip line, comprising:

5 a series pair of inductors inserted between the voiceband modem interface ring line and the ring line and between the voiceband modem interface tip line to the tip line connection by inserting, a first inductor of the series pair having a low inductance and a high self-resonant frequency and a second
10 inductor of the series pair having a high inductance and low self-resonant frequency, the low inductance, the high self-resonant frequency, the high inductance and the low self-resonant frequency being each determined to locate a filtering cutoff point between the voiceband modem operating frequency
15 band and a digital subscriber line operating frequency band.

17. The circuit coupler of Claim 16, wherein the low inductance is 47 μ H and the high inductance is 5 mH.

20 18. The circuit coupler of Claim 16, wherein the common phoneline connection is a RJ-11 connector.